ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

CHELMSFORD

RURAL DISTRICT COUNCIL

FOR THE YEAR 1895.

CHELMSFORD:

PRINTED BY JOHN DUTTON, 8, TINDAL STREET.

MDCCCXCVI.

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INDEX.

	Page.
Population, etc.	3
Improvements Recently Completed	4
Works Contemplated	5
Overcrowding	8
Housing of Working Classes Act	10
Results of Inspection	13
Hospital Report	15
Prevalence of Infectious Diseases	17
Mortality Statistics	23
Consumption and Cancer	25
Tables of Statistics	26
Inspector's Report	31

Chelmsford Rural Sanitary District.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1895.

Sub-Registration District.			Area in Acres.	Population. Census, 1891.
1.	Chelmsford, part of.	One parish ..	692	293
2.	Ingatestone.	Eleven parishes	26,541	6,175
3.	Writtle.	Six ,, ...	18,079	5,060
4.	Great Waltham.	Eight ,, ...	19,080	5,133
5.	Great Baddow.	Six ,, ...	15,033	6,513
		Total	79,425	23.174

	Population.	No. of inhabited houses.	No. of uninhabited houses.	No. of houses building.
1881	23,130	5,066	377	6
1891	23,174	5,102	319	17

TO THE CHAIRMAN AND MEMBERS

OF THE

RURAL DISTRICT COUNCIL.

GENTLEMEN,

The past year has not witnessed the completion of any Sanitary Works of considerable magnitude, nevertheless a fair number of improvements can be chronicled, and during the year several important works have been discussed, one of which, at least, it has been decided to carry into effect at the earliest possible moment.

The following are the principal improvements carried out during 1895.

Margaretting. At length a public pump has been placed over a well in the upper portion of the village. A considerable number of trial borings were made, and a site selected where the water yielded was least hard, and where there is a minimum risk of pollution. The quality is not all that could be desired, but it is apparently the best available. The supply from the spring at the bottom of the hill has also been improved.

Pleshey. The sand lying beneath the thick superficial stratum of boulder clay, does not yield a very abundant supply of water and the two public pumps did not, in summer, meet all the requirements of the parish. A third well has therefore been sunk in the higher portion of the parish, and a pump fixed. The work has only just been completed. The water is very hard.

In several portions of the District private owners have been compelled to provide supplies of water for their properties. This has necessitated many trial bores being made, since no order is served under Sec. 62. Public Health Act, 1875, until the District Council is assured that a wholesome and sufficient supply can be obtained at a reasonable cost.

Great Leighs. A small roadside spring here has been impounded in a brick tank or well, and a pump connected therewith.

Great Baddow. The water mains have been extended so as to supply the houses on Lower Green, and at Piper's Green a well, filter bed and pump have been fixed to replace the old dipping place in the pond.

Danbury. A water main has been carried from Pear Tree Corner to Slough House, a distance of about one mile, to supply the cottages and farms *en route*.

Springfield. Building operations here have necessitated the extension of the sewer along Arbor lane.

Woodham Ferris. The drainage of the village has been improved by the insertion of gullies in the road, and by carrying the sewer outfall further from the village.

Little Waltham. Two open ditches, which received sewage have been piped and filled in.

Great Waltham. A new sewer has been laid here to replace the old barrel drain. The sewage filter tanks have been duly cleansed.

Writtle. The deep well pump on Oxney Green has been repaired.

The Hospital. A large shed has been built here for the Ambulance and Van containing the Hospital Tent. A disinfector has also been erected. Vide Hospital Report.

Works Contemplated. An extensive scheme for providing many parts of the district with water from Danbury and for improving the Danbury village supply, has been decided upon by your Council, and only awaits the approval of the Local Government Board.

This scheme includes (*a*) the substitution of an oil engine for a ram, and the provision of a larger service reservoir for the supply of the village of Danbury. The ram can scarcely keep pace with the demand during a dry summer, and the great height to which the water has to be forced, limits the amount which can be supplied to the village; (*b*) Extension of the mains to Butts Green, in the parish of Sandon; from Woodham Ferris village to the Railway Station; from Rettendon Common to Battles Bridge; from Rettendon Cross roads to Runwell and Wickford; from Danbury to Little Baddow. The supply for Little Baddow will be from the Service Reservoir on Danbury Hill.

If the latter portion of this scheme be carried out, the scheme for supplying Little Baddow with water from a local spring will be abandoned. The Danbury spring will probably yield sufficient water to meet all the demands of the district to be supplied, but if further extensions are carried out, there is more water available from other springs on the Common now running to waste.

The works of sewerage and water supply for the village of Writtle are not yet commenced. The formal approval of the Local Government Board is delayed, chiefly because the land upon which it was proposed to erect the service reservoir belongs to the parish, and cannot legally be used for the purpose proposed. It is sincerely to be hoped that no unnecessary delay will be permitted, since many cottages have been erected during the year, plans for six others have just been approved. This increase in the population accentuates the necessity for a system of drainage and water supply.

I regret to say that the Council has not yet decided to undertake the scavenging of Springfield.

On several occasions I have directed attention to the defective water supply to the parish of Stock. Many cottages have no available supply, save at a most unreasonable distance, and the chief public well yields a very limited quantity of water, and the quality is far from satisfactory. A small Committee was appointed to meet the Surveyor and myself in the village. Various schemes for improving the present supply were considered, but in consequence of the complaints from Ingatestone, referred to below, the subject is receiving further consideration, as it may be possible to supply both villages from the Danbury springs.

Complaints were made during the summer about the insufficiency of the supply to the village of Ingatestone (Ingatestone and Fryerning parishes). A chain of wells near Fryerning Church, yield a limited amount of water which after filtration is collected in a service reservoir and flows by

gravitation to the village. The yield is markedly affected by a dry season, and appears to be gradually decreasing, whilst the population supplied with the water has increased considerably. The Surveyor has furnished me with the results of his annual autumnal gaugings.

Year.				Yield of wells per day of 24 hours.
1886	...	...	...	17,280
1887	...	...	...	12,960
1888	...	...	...	21,600
1889	...	...	...	17,280
1890	...	...	...	17,280
1891	...	...	...	16,200
1892	...	...	...	12,960
1893	...	...	...	8,640
1894	...	...	...	8,640
1895	...	...	...	7,400

In 1886 only a population of 600 was supplied, and the water rate produced about £50 a year. During the past year 1100 persons were supplied and the water rate yielded £108.

A number of trial borings have been made to ascertain if the chain of wells could be extended. The water obtained varied much in quality and the amount available would probably be inadequate to meet the increasing demand. The matter is pressing, but requires further careful consideration. The choice seems to lie between a bored well (at least 300 ft. deep) and obtaining a supply from Danbury. The latter scheme would enable us to supply the villages of West Hanningfield and Stock *en route*, and would probably be for this reason, more economical and more useful. Either scheme will involve pumping the water into a service reservoir, since both Stock and Ingatestone are at too great an elevation to be supplied by gravitation only.

Drainage and water supply to the Cherry Tree cottages in the parish of Writtle. This group of 14 cottages in three adjacent rows borders on the Borough of Chelmsford, and is

close to the Borough Water Mains and Sewers. It is impossible to drain them satisfactorily except by connecting them with the Chelmsford Sewer, and steps are now being taken to have this portion of Writtle parish absorbed into the Borough.

The above epitome of Sanitary improvements contemplated shews that the District Council is alive to its responsibilities, and that it intends continuing to improve the sanitary condition of the whole of the district. That it has already done much, is not being made an excuse for not doing more. On the contrary, the benefit derived from works already executed, is proving an incentive to extend the area of these improvements.

Further Sanitary requirements. Abatement of overcrowding.

In May I submitted the following report to the Council. "In consequence of the comparative frequency of certain offences which Coroners and Jurymen attribute to overcrowding I have been giving special attention to this subject. I am much surprised to find, from the Census returns, that in our Rural Districts there is more overcrowding in the cottages than in any other such area in the whole of the Eastern Counties. Assuming that six persons can just be accommodated in a four-roomed cottage, the following is the number of overcrowded cottages in the Chelmsford Rural District.

150	such	cottages	with	7	occupants.
100	,,	,,		8	,,
46	,,	,,		9	,,
18	,,	,,		10	,,
3	,,	,,		11	,,
4	,,	,,		12	,, or more.

That is, we have a population of 2,525 residing in 321 cottages, an average of over eight per cottage, or, in other words, about one-eighth of our cottages are overcrowded.

That this overcrowding and co-mingling of the sexes must be destructive of modesty and lead to immorality requires no arguments to prove, and that it is a condition which is injurious to health is also undoubted. It is therefore our duty to do all that is possible to bring about a better state of things, although the task is one of enormous difficulty.

These cases of overcrowding are difficult to detect, and when discovered are still more difficult to deal with. The larger a labourer's family the less he can afford to pay for rent, and assuming that he could afford to pay a reasonable rent, he can rarely obtain a sufficiently large cottage, since as you are aware, very few have more than two bedrooms. If the children were sent from home as soon as they were old enough to go into service, no doubt much of the overcrowding would be abated, but naturally enough the parents do not wish to part with their children just when they can add to the family earnings, or in the case of girls, can help the overworked mother. Labour is scarce enough at the present time and will become scarcer if we insist upon the young wage earners being sent away, since in all probability they would drift into the towns. There is an old proverb, advising us to choose the lesser of two evils, and I am at present inclined to think that drifting townwards is a less evil than the continuance of the present condition of overcrowding, but I am not certain, and I should be glad to receive instructions from you for my guidance." I then described a few of the many cases in my note book. After some discussion, the matter dropped. I understood that moral suasion was to be used, and where this failed, the more glaring cases were to be reported and would be considered individually. I have records of about 30 cases, all of which have been warned and advised, and shortly another systematic visitation will be made to ascertain if my advice has been acted upon.

There is a want of good cottages in many of our villages. The discussion which took place in 1894 with reference to adopting Part III. of the Housing of the Working Classes Act

for the parish of Good Easter, lead to several cottages being erected by a private individual. At the present time I am advocating the adoption of this part of the Act for the parishes of Ingatestone and Fryerning.

THE HOUSING OF THE WORKING CLASSES ACT.

During the past year I have made five representations under Part II. of this Act, reporting a corresponding number of houses, as being, in my opinion, unfit for human habitation. Of these, two have been closed, one repaired, and the others are not yet dealt with.

On several occasions I have directed attention to insanitary property, which ought to be condemned, but which at present has not been formally represented as unfit for human habitation, inasmuch as condemnation would be followed by the closing of the cottages. This would cause great hardship since there are no available houses for the occupants to move into.

Ingatestone village is one of the wealthiest and most prosperous in the district, yet there is a sad want of cottage accommodation. Following my report upon an outbreak of Typhoid Fever in a group of overcrowded back-to-back one-storied cottages, the Parish Couucil formally requested the District Council to adopt Part III. of the Housing of the Working Classes Act, and to erect some cottages. A Committee was formed and met at Ingatestone. To this Committee I reported "that Part III. of the Housing of the Working Classes Act, which you are requested to take steps to adopt, is intended to facilitate the erection of Labourers' cottages, and the expression 'Cottage' is defined so that it "may include a garden of not more than half an acre, providing that the estimated annual value of such garden shall not exceed £3."

By section 54, the adoption can only take place after a certificate has been obtained from the County Council, and after certain delays, described fully in section 55.

Land may be acquired by agreement, and, if possible, this certainly should be done, since otherwise it must be acquired under sections 175 to 178 of the Public Health Act, 1875. That is to say, no action can be taken until November next, when notices will have to be published in the local newspapers, a petition presented to the Local Government Board, an enquiry held by that Board and a Provisional Order obtained.

Under section 67, the period of repayment of sums advanced under this section of the Act shall not exceed 40 years.

As I have some personal knowledge of a parish in the Eastern Counties in which cottages had been erected under this Act, the following information with reference thereto, will probably be interesting to you. The parish referred to is Ixworth in the Thingoe Rural Sanitary District, Suffolk. Eight cottages have been built, each with half-an-acre of land, in two blocks of four each. The total cost of the land and cottages was £1,740, and this sum was borrowed at 3¼ per cent. interest, the principal and interest being repayable by 30 annual instalments. The cottages let at £5 10s. per annum, with 2d. per rod extra for the land or for £6 3s. 4d. each, including the garden. Of my own knowledge I can say that, the working classes in Ingatestone are in receipt of better wages than those in Ixworth, and could afford to pay and do at present pay a much higher rental for their cottages. In Ingatestone also there is a greater want of additional accommodation than there was in Ixworth.

As it is not proposed in Ingatestone to provide so much as half an acre of ground to each cottage, we may fairly estimate that three groups, each of four cottages, would cost, including land £2,400 or £200 per cottage. These cottages would be eagerly sought after at a rent of 3s. 6d. per week or

£9 2s. per annum. Allowing for rates, cost of collection, repairs, etc., we may fairly assume an average yearly income of £8 5s. from each cottage.

The annual repayment of interest and principal would be	... ...	£132
Rental of 12 cottages at £8 5s. each	...	99
Balance	...	£33

This Balance of £33 would have to be raised by rate upon the parishes of Ingatestone and Fryerning, yearly for say 30 years, at the expiration of which time the cottages would become parish property and the rents would go towards reducing the rates.

I estimate that a rate of 1d. in the £ on house property and ¼d. in the £ on land would bring in almost exactly the required amount £33.

The population of the village is gradually increasing.

Population of Ingatestone and Fryerning,	1881 ...	1630
,, ,, ,,	1891 ...	1688
Increase ...	...	58

The want of cottage accommodation has been severely felt for some years, and I have frequently had to refer to it in my reports. I am assured that there is no probability of private enterprise supplying the demand, as several persons who have wished to erect cottages have failed to obtain land for the purpose.

As the building of large detached houses is proceeding, the demand for cottages for grooms, gardeners, etc., is bound to increase, and there will be no risk of such property deteriorating in value. Taking everything into consideration I think a better case for adopting Part III. of the Housing of the

Working Classes Act, could scarcely be made out, and I sincerely hope you will recommend the District Council to take the necessary steps without delay.

After a full consideration of the whole subject, the Rev. P. Gibson proposed and Mr. Millbank seconded the following resolution :—

"That this Committee believing that there is a real want of labourers' cottages in the parishes of Ingatestone and Fryerning, and also believing that there is no likelihood of the want being met by private enterprise, ask the Chelmsford Rural District Council to take the necessary steps to adopt Part III. of the Housing of the Working Classes Act, for the purpose of acquiring at least two acres of ground and erecting 12 cottages thereupon, and that the cost of the land and the erection of the cottages be a special charge upon the two parishes mentioned." Carried *nem. con.*

This resolution was duly submitted to the District Council, and during the discussion it was announced that there was a probability of land being rendered available for building purposes almost immediately, and that several persons in the parish were anxious to erect cottages. To ascertain if this really were the case, the Clerk was instructed to desire the Parish Council to call a parish meeting to discuss the subject and elicit the fact. Here the matter rests at present.

SYSTEMATIC INSPECTION AND COMPLAINTS INVESTIGATED.

The sanitary condition of each parish is now so well-known to me that systematic inspection rarely reveals anything previously unknown. The number of complaints received by me is comparatively small. Nine-tenths of those received during the past year referred to an alleged nuisance arising from a bone-boiling works at Springfield. I referred to these works in my last annual report, stating that a new bone-hole

had been erected and extensive alterations made, but that as these had only just been completed, it was too early to express an opinion as to the results. Unfortunately during the summer, complaints from certain individuals were again received from time to time. These were always promptly investigated, and the reports I received from people living around the works were most contradictory. The works always appeared to be on the whole, exceedingly well conducted, and our bye-laws conformed to. Only on one occasion did I detect the slightest smell, arising from the works, outside their boundary. The means adopted to prevent any effluvium nuisance were in my opinion the best at present known. Such being the case I could not give a certificate under Section 114 of the Public Health Act. Two resident medical practitioners and the requisite number of inhabitants, however, signed the necessary documents, and the District Council had no option but to commence proceedings. The case was tried before the Chelmsford Justices on October 30th and November 1st, occupying two whole days. The magistrates appear to have held the case proved and imposed the maximum penalty of £5, with £40 costs. From this decision the Defendants appealed, and on January 1st and 2nd the case was re-heard at the Quarter Sessions, Lord Rookwood presiding. The same evidence was given, and after lengthy consideration the decision of the court below was reversed. No order was made as to costs. In both cases I was subpœned by the Defendants and had to give in evidence my opinion that the works were, so far as my observations extended, well conducted, and that the best known means had been adopted for preventing nuisances arising.

There is no doubt whatever that an occasional nuisance does arise, and that it is due to the escape of effiuvia from the bone-hole through the tall chimney shaft, on those calm damp days when there is not sufficient breeze to dilute the vapours, and when for some reason they tend to descend instead of ascend. The Barrister for the prosecution persisted

in attempting to prove that the nuisance was in great part due to the way in which the bones were stored, to steam escaping from the pans, etc., in which the bones were boiled. As I am absolutely certain that the nuisance could not arise from any such causes I was obliged to appear as giving an opinion not shared by the District Council, which was, at any rate, nominally the Prosecutor. I may add that I was not consulted either in the getting up of the original case, or in reference to the Appeal.

No other prosecutions have been undertaken during the year.

ISOLATION HOSPITAL REPORT.

The Hospital which was built according to the model plans of the Local Government Board, received the first patient on January 1st, 1894, and has been occupied 270 days during the year. It has been most useful, and I feel certain that it has prevented more than one outbreak of Scarlet Fever and Diphtheria. There has been little difficulty in securing the removal of patients, and it is worthy of note that in two instances in which I failed to persuade parents to allow an infected child to be removed, the disease, Scarlet Fever, spread to all the other children in the households, whereas, in no case in which removal was permitted was there any extension of the outbreak.

The Hospital is very conveniently situated on elevated ground close to the Borough of Chelmsford. The subsoil is gravel of an exceptionally dry character, the ground water level being at least 20ft. from the surface. The buildings are entirely of brick. The ward block contains two wards, with two and three beds respectively, and a Nurse's room. The administrative cottage, provides accommodation for the caretaker, his wife and servant, and has two spare bedrooms for the use of patients and convalescents, and a room for the Medical Superintendent. Three acres of ground were pur-

chased, but only about one acre has been enclosed by corrugated iron close fencing. The buildings cost (contract) £997, the road, drainage, water supply, and fencing £300. The furnishing cost £70. During the year a large corrugated iron building has been erected for storing the ambulance, and the van containing the hospital tent. A "current steam" disinfecting apparatus has also been purchased and has proved invaluable. The cost of the shed, ambulance, disinfector and chamber to contain it was £130.

Only one ward is at present furnished completely, but this together with the two bedrooms in the caretaker's house have accommodated all our patients during the year, and no doubt will continue to suffice, unless some serious epidemic occurs. Fortunately we have had nothing of the kind this year, and as previously stated, this is in some measure due to the prompt removal of such cases as would have otherwise served as centres of infection.

The cases admitted were as under :—

6 patients suffering from Diphtheria, all recovered.
9 ,, ,, Scarlet Fever, all recovered.
3 ,, ,, Typhoid Fever, 2 recovered, 1 died.

These patients were detained 607 days or on an average 34 days each. The code of rules and regulations framed early in the year have proved quite satisfactory. Of the 18 patients admitted only three elected to be attended by their own medical adviser, and one of these was ultimately left in my charge. Provisionally I have acted as Medical Superintendent.

The maintenance account, excluding Wines, Beef Extract, and Medicine, for the year is £22 4s. 8d. A very modest sum which has probably been more than covered by the charges made to certain of the patients.

The disinfecting apparatus has been in frequent use, not only for disinfecting bedding belonging to the hospital, but for that removed from infected houses. Clothing, bedding, mattresses, etc., from places outside our district have been

received so frequently that the Council has just fixed a scale of charges for disinfecting such articles. The following is a list of the articles disinfected :—

76 Mattresses.
8 Feather and Flock beds.
210 Blankets.
155 Bolsters and Pillows.
140 Bundles of Clothing.
30 Curtains, rolls of Carpets.
140 Pairs of Boots.

At the present time the machine is working 12 and 14 hours a day, disinfecting the whole of the bedding, etc. of a very large establishment (250 beds). The machine was devised by myself and as certain novel principles are involved in its construction it has been visited and tested by many eminent scientists, and by several deputations from other districts.

The provision and equipment of this Hospital is one of the most important sanitary works carried out in this district, and the results fully justify the expenditure incurred in erecting and maintaining it.

PREVALENCE OF INFECTIOUS DISEASES.

Measles is the only disease which has really been epidemic during the year. Small localised outbreaks of Scarlet Fever and Diphtheria have occurred in various parts of the district, but rarely have more than two houses in a parish been invaded.

The number of cases of disease brought to my notice under the Infectious Diseases Notification Act, and the parishes in which they occurred are as under :—

	Diphtheria.	Croup.	Typhoid Fever.	Scarlet Fever.	Erysipelas.	Total.
Writtle	0	1	1	6	1	9
Roxwell	3	0	1	0	3	7
Good Easter	0	0	0	0	3	3
Chignall	0	0	0	2	0	2
Broomfield	1	0	1	1	0	3
Springfield	4	0	0	3	5	12
Great Baddow	2	0	0	0	0	2
Little Baddow	0	0	0	3	0	3
Ingatestone & Fryerning	4	0	3	0	0	7
Stock and Buttsbury ...	2	0	3	0	7	12
Margaretting	1	0	1	1	0	3
Rettendon	1	0	1	4	0	6
Woodham Ferris... ...	1	0	0	11	0	12
The Hanningfields ...	1	0	1	0	5	7
Great Waltham	3	0	0	3	2	8
Little Waltham	0	0	0	1	0	1
Boreham	0	0	0	4	1	5
Great and Little Leighs	0	0	0	5	0	5

No cases were notified from Pleshey, Mashbury, Runwell, Sandon or Danbury. No case of Small-pox occurred during the year. The distribution of these diseases throughout the year is given in Table VI. appendix.

DIPHTHERIA AND CROUP.

Diphtheria has been much less prevalent than usual, and this district which, some 15 years ago, had the highest mortality from this disease of any in the country, has now nearly the lowest. Amongst those notified, a considerable proportion were very slight cases, and nearly half of them when examined bacteriologically, did not yield Loeffler's diphtheria bacillus. In the Roxwell outbreak which terminated in January, 1895, the bacillus was only identified in the last case notified, and the patient, a youth of 18 continued to live in the

small kitchen with eight other children, yet none of them became infected. In another case, the child's throat continued to yield a nearly pure growth of the Loeffler bacillus so long after it was apparently well, that the mother refused to keep it isolated longer. It was therefore allowed to play with its little brothers and sisters, but none of them became infected.

In three cases which occurred at intervals in another parish, no diphtheria bacilli were found, but in each there was a free growth of a Torula which appeared in all respects to correspond with the Thrush Fungus. Were these cases of Thrush? Two of the patients were adults and one a lad.

Twice during the year patients living in service in Chelmsford contracted Diphtheria there, and were sent to their respective homes in the Rural District, instead of being sent to the Borough or Rural District Isolation Hospital. Patients suffering from other diseases have been removed in a similar manner. These patients are sent home, regardless of the fact that there is no accommodation there for such cases, and that probably there are children in the house. Then when the case is notified to me, if it is a suitable one for removal it has to be brought back to Chelmsford to our Isolation Hospital.

In any alteration of the Public Health Acts, it should be made penal to remove such a case without giving 24 hours notice to the parents, and the Medical Officer of the District into which the patient is to be removed, so that proper arrangements can be made for the reception of the sufferer, either at home or in some hospital.

No doubt the proper course would be for these patients to be removed to the Hospital for the district in which the disease was contracted, instead of being sent to disseminate the disease elsewhere.

The age and sex distribution of the notified cases of Diphtheria were as under : —

	Under 1 yr.	1-5	5 15	15-25	25-35	35-45	Total.
Males.....	...	2	0	3	3	1	9
Females	...	2	2	7	2	1	14

The only case of Croup notified was that of a girl aged six years.

SCARLET FEVER.

Cases have occurred in 10 parishes. At the end of 1894, a family became infected in Woodham Ferris and refused to allow the child to be removed. The result was that six other children were attacked in the same house, and two other houses became infected. The children in these cottages were removed to Hospital and no other cases followed. At Great Leighs a child was attacked in June, the parents refused to allow the child to be removed, and all the other children (4) in the house were afterwards infected. Fortunately there was no further extension.

The age and sex distribution of the cases are as under :—

	Under 1 yr-	1-5	5-15	15-25	25-35	35-45	Over 45	Total.
Males	...	4	14	5	0	1	2	26
Females	...	3	9	4	2	0	0	18

Many of these cases were of so slight a character, that a certain diagnosis was impossible.

TYPHOID FEVER.

Twelve cases occurred during the year in eight parishes.

Two cases were undoubtedly imported. Not one of the other 10 could be traced to any pre-existing case. In one family two members were attacked within a few days of each other. The water supply was liable to sewage pollution. In another parish two members of the same family were attacked simultaneously. The house was very dirty and overcrowded, and the water closet filthy. Water supply good. Two other sporadic cases were associated with impure water supplies, one with a drainage defect, and one was possibly due to contaminated oysters. The origin of the others could not even be surmised.

The age and sex distribution was as under :—

	Under 1 yr.	1-5	5-15	15-25	25-35	35-45	Total.
Males	...	0	0	2	0	0	2
Females	...	2	3	2	1	2	10

The preponderance amongst females is singularly marked.

ERYSIPELAS.

None of these cases call for special reference. Most of the cases notified come from one particular, thinly populated district. There is evidently a good deal of difference of opinion amongst the profession as to what is Erysipelas, and as a result of a more extended experience under the Infectious Diseases Notifications Act, I have come to the conclusion that the notification of this disease is a waste of public money.

The age and sex distribution is as under :—

	Under 1 yr.	1-5	5-15	15-25	25-35	35-45	Over 45	Total.
Males	1	0	0	1	1	1	2	6
Females	1	3	3	2	1	1	10	21

The preponderance amongst females, especially aged ones is well marked.

OTHER INFECTIOUS DISEASES.

Measles and Whooping Cough have been prevalent in several parishes. On account of the rapid spread of Measles, I had to recommend to the respective School Authorities that the Galleywood, Widford, Writtle, Good Easter and Chignal Schools should be closed for a period. In Writtle parish I made a serious attempt to arrest the epidemic without closing the School. A weekly list of cases was furnished me and I visited the infected houses from time to time, and caused a number of hand-bills, giving precautionary methods to be adopted, etc., to be distributed. The only result was that the disease spread more slowly than usual, but at length I was obliged to recommend that the Schools be closed. From Writtle a child introduced the disease into Good Easter. The infected family took every reasonable precaution, and I had good grounds for believing that there would be no extension. At the end of one week the school attendance was very good and not a case of Measles was known in the parish. On the following Monday over half the scholars were absent, and there were cases of Measles all over the parish. How the disease was introduced into the School I could not ascertain.

Impetigo contagiosa became very prevalent in one school, and the Correspondent wrote me in some alarm, a suspicion having got abroad that it might be a modified form of Small-pox.

MORTALITY STATISTICS.

Death-rate from all Causes. The death-rate for the year, 13·9, is again below the average, and, with the exception of the phenomenally low rate for 1894, is the lowest of which I can find any record.

Deaths registered in the district ...	304
Deaths of paupers in the workhouse belonging to the Rural District ...	20
Deaths in the Chelmsford Infirmary belonging to the district ...	1
	325
Deaths of aliens	2
Total deaths	323

The aliens above referred to are a man, unknown, who was found drowned in the Wid, and a patient who died in the Billericay Isolation Hospital, in Buttsbury parish.

The heaviest mortality occurred in the first quarter during the very severe weather; the death-rate has been uniformly low in the 2nd, 3rd and 4th quarters.

						per annum.
Deaths in first quarter	111	corresponding to	19·1	per 1000		
,, second	,,	70	,,	12·0	,,	
,, third	,,	67	,,	11·5	,,	
,, fourth	,,	75	,,	12·9	,,	

The sub-registration districts of Writtle and Ingatestone had the highest death-rates for the year. *Vide* Table II. In none of the groups of Parishes was there an excessive mortality (Table III.) and it is gratifying to note that the Death-rate in Ingatestone and Fryerning continues low, and we may hope that in a few years the average will be quite as low as that for the whole district.

Birth-rate and Infantile Mortality. 587 births were registered during the year, and there were 55 deaths of children under one year of age. The birth-rate 25·3 is still very low, but not so low as in the preceding year.

The Infantile mortality, 94 per 1000 births is about the average.

Zymotic Death-rate. It is satisfactory to be able to record that notwithstanding the extensive prevalence of Measles, the mortality from the seven principal zymotic diseases was again much below the average. The death-rate therefrom was highest in the Writtle Sub-registration district. *Vide* Table II.

The deaths from Zymotic Diseases were as under :—

1	from	Diphtheria	Buttsbury
1	,,	Diphtheritic Croup...	Writtle
3	,,	Typhoid Fever ...	Writtle, Margaretting, and Great Waltham
1	,,	Erysipelas	Good Easter
4	,,	Measles	3 in Writtle, and 1 in Good Easter
5	,,	Whooping Cough ...	Widely distributed
10	,,	Diarrhœa	,,
Total 25			

The whole of the deaths from Diarrhœa, occurred in the last four months of the year. This Autumnal diarrhœa appears to depend in some way upon the earth temperature ; the disease becoming prevalent, more especially in localities where the subsoil is polluted, at the season when the soil acquires a certain temperature, and children chiefly are affected. Improper feeding of infants is a prolific cause of Diarrhœa, but in our district natural feeding is the rule. If improper food were the cause of any considerable proportion of these deaths from Diarrhœa we should expect to record a high average mortality from this disease, whereas the mortality is very irregular, alternately being high and low. Thus in 1892 only four deaths were recorded from this cause, whilst in 1893 there were 13. Again in 1894 there were only two deaths, followed by 10 deaths in the past year.

The deaths from Diphtheria and Croup are probably lower than we have ever recorded. Every year the number of cases notified decreases and the deaths decrease in about the same ratio. This is a most gratifying fact to record and a result upon which the District Council is to be congratulated.

Cancer and Phthisis. Unfortunately we cannot congratulate ourselves upon any diminution in the annual death-roll from these diseases. Cancer, I am sorry to say, appears to be on the increase. In the following table the deaths from these diseases for the past seven years are recorded.

	Deaths from Cancer.	Deaths from Phthisis.
1889	15 ...	29
1890	9 ...	26
1891	16 ...	34
1892	15 ...	30
1893	12 ...	24
1894	31 ...	13
1895	19 ...	27
Totals ...	117	183

The distribution of these diseases I am now engaged in studying. In certain districts both affections are rare, whilst in other localities there is an undoubted excessive prevalence. Both are believed to occur most frequently where the sub-soil is damp, but this does not appear to be the case throughout this district. There is no doubt that Phthisis (Consumption of the Lungs) is in a great measure a preventible disease. It is fostered by damp, insanitary dwellings, overcrowding and neglect of certain precautions with regard to the disposal of the infective sputa. Cancer, on the other hand, does not appear to be markedly affected by the environment of the individual, though there is a suspicion that it occurs most frequently in damp, low-lying localities.

JOHN C. THRESH.

TABLE I.

BIRTH-RATES, DEATH-RATES, AND INFANTILE MORTALITY DURING 1895, COMPARED WITH PREVIOUS YEARS.

Period.	Per 1,000 Population.			Deaths of infants under 1 year per 1,000 Births.
	Birth-rate.	Death-rate all causes.	Death-rate Zymotic Diseases.	
1895	25·3	13·9	1·03	94
1894	22·9	12·8	·55	72
1893	26·2	14·9	1·68	88
1892	24·5	18·2	1·85	96
1891	26·6	15·5	·95	91
1890	26·8	15·6	2·6	105
1881-90	28·0	15·3	1·65	92

TABLE II.

DEATH-RATES FROM ALL CAUSES, AND FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES, AND INFANTILE MORTALITY IN THE VARIOUS SUB-REGISTRATION DISTRICTS.

Sub-registration Districts.	1894.			1895.		
	Death-rate.	Zymotic Death-rate.	Infantile Mortality.	Death-rate.	Zymotic Death-rate.	Infantile Mortality.
Writtle	12·0	·4	72	15·8	1·6	116
Great Waltham ...	14·2	1·2	69	13·1	·8	70
Great Baddow ...	14·3	·0	76	11·8	·6	84
Ingatestone ...	11·3	1·0	75	15·8	1·3	101

TABLE III.

DEATH - RATES IN THE PARISHES PER 1,000 POPULATION.

Parishes.	Population.	Death-rate, 1895.	14 years, 1881 to 1894.
Boreham, Little Baddow, Danbury and Sandon	2,890	14·9	14·2
Runwell, Rettendon, Woodham Ferris and the Hanningfields	2,830	9·5	13·9
Roxwell, Chignall, Good Easter, Mashbury and Pleshey	2,155	14·4	15·7
Writtle (including Highwood)	2,500	15·6	15·4
Great Waltham	2,285	15·8	15·1
Broomfield, Little Waltham, Little Leighs and Great Leighs	2,354	11·0	15·5
Springfield	2,600	12·3	15·2
Great Baddow (including Galleywood)	2,080	17·3	16·0
Margaretting and Widford	815	8·5	16·5
Stock and Buttsbury	1,064	15·0	15·6
Ingatestone and Fryerning	1,680	13.8	17·0

TABLE IV.

TABLE of DEATHS during the year 1895, in the Chelmsford Rural Sanitary District, classified according to DISEASES, AGES, and LOCALITIES.

Names of Localities.	Mortality from all Causes, at subjoined Ages.								Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.																				
													Fevers.																
	At all ages.	Under 1 year	1 & under 5	5 & under 15	15 & under 25	25 & under 65	65 & upwards		Small-pox	Scarlatina	Diphtheria	Membranous Croup.	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas	Measles.	Whooping Cough	Diarrhœa and Dysentery	Rheumatic Fever	Phthisis	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease	Influenza	Injuries	All other Diseases.	Total
Writtle	80	18	3	4	5	19	31	Under 5	...	...	...	...	...	...	...	...	...	...	...	2	...	...	..	...	5	...	...	...	14	21
								5 upwds.	...	...	...	1	..	1	...	...	...	...	1	2	...	2	...	7	6	8	1	1	29	59
Great Baddow ...	77	12	10	0	4	15	36	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	6	1	...	...	11	22
								5 upwds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	11	9	...	3	26	55
Ingatestone ...	98	17	9	5	5	18	44	Under 5	...	...	1	...	...	...	...	...	...	...	...	...	3	3	...	...	4	...	1	...	14	26
								5 upwds.	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	9	13	10	2	1	34	72
Great Waltham ...	67	8	3	1	2	15	38	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	5	...	...	...	4	11
								5 upwds.	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	5	12	5	2	1	29	56
Widford (Parish)	1	...	...	...	...	1	...	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
								5 upwds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Totals ...	323	55	25	10	16	68	149	Under 5	...	...	1	...	...	...	...	...	...	...	...	2	5	7	...	...	20	1	1	...	43	80
								5 upwds.	...	..	...	1	...	3	...	...	...	...	1	2	...	3	1	27	42	32	5	7	120	245

The subjoined numbers have been taken into account in the above records of mortality.

Deaths occurring outside the district among persons belonging thereto, included in the above ...	21	1	...	1	1	3	15	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
								5 upwds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	5	...	1	11	20
Deaths occurring within the district among persons not belonging thereto, not included in the above	2	...	...	1	..	1	...	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
								5 upwds.	...	...	1	...	...	...	...	...	...	...	..	...	...	..	...	...	...	...	...	1	...	2

TABLE V.

TABLE of POPULATION, BIRTHS, and of NEW CASES of INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1895, in the Chelmsford Rural Sanitary District, classified according to DISEASES, AGES, and LOCALITIES.

Names of Localities.	Population at all Ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.												Number of such Cases Removed from their Homes for Treatment in Isolation Hospital.					
					1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
									Fevers.													
	Census 1891.	Estimated to middle of 1895.			Small pox	Scarlatina	Diphtheria	Membranous Croup	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas	Total	Small-pox	Scarlatina	Diphtheria	Membranous Croup	Enteric or Typhoid Fever	Total.
Writtle	5060	5060	156	Under 5	...	2	...	...	...	...	...	...	...	...	2	4	...	...	...	...	...	0
				5 upwards.	...	7	4	1	...	3	...	...	...	...	5	20	...	1	...	...	...	1
Great Baddow	6513	6550	142	Under 5	...	1	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	0
				5 upwards.	...	5	5	...	...	...	...	...	...	...	5	15	...	2	3	...	...	5
Ingatestone	6175	6200	168	Under 5	...	3	2	...	...	2	...	...	...	...	3	10	...	1	...	...	...	1
				5 upwards.	...	13	8	...	...	7	...	...	...	...	9	37	...	2	3	3	3	8
Great Waltham ...	5133	5133	115	Under 5	...	1	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	0
				5 upwards.	...	12	2	...	...	...	..	...	...	...	3	17	...	1	1	...	...	2
Widford (Parish) ...	293	293	6	Under 5	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...	...	...	...
				5 upwards.	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...	...	...	...
Totals ...	23174	23236	587	Under 5	...	7	4	...	...	2	...	...	...	...	5	18	...	1	...	...	...	1
				5 upwards.	...	37	19	1	...	10	...	...	...	...	22	89	...	6	7	...	3	16

"The Notification of Infectious Disease" has been compulsory in the District since 1890.

An Isolation Hospital is provided.

TABLE VI.

TABLE OF METEOROLOGICAL DATA, DEATHS, AND OF INFECTIOUS DISEASES, YEAR ENDING DECEMBER 31ST, 1895.

	Meteorological Data.					Deaths from all causes.			Deaths from Zymotic Diseases.								Infectious Diseases Notified.					
	Mean Temp.	Mean Daily Range of Temp.	Relative Humidity.	No. of Rainy Days.	Rainfall.	Total Deaths.	Under 1 year.	Over 65 years.	Scarlet Fever.	Diphtheria and Croup.	Fevers.	Diarrhœa.	Erysipelas.	Whooping Cough.	Measles.	Totals.	Small-pox.	Scarlet Fever.	Diphtheria and Croup.	Fevers.	Erysipelas.	Totals.
January ...	31·9	9·2	95	23	2·00	29	6	9	...	1	1	...	...	...	...	2	...	11	7	1	5	24
February ...	27·1	15·45	92·5	7	·17	43	6	25	...	1	...	...	...	1	...	2	...	5	2	1	...	8
March ...	42·4	15·2	87	15	1·33	39	7	23	...	...	...	...	...	...	...	...	...	8	1	...	4	13
April ...	48·0	18·0	81	11	·97	36	5	18	...	...	...	...	...	...	...	...	...	2	1	...	4	7
May	54·45	22·3	73	6	·33	20	3	9	...	...	...	...	...	1	...	1	...	2	...	...	5	7
June	59·4	26·5	65	5	·42	14	1	10	...	...	...	...	...	...	...	...	...	5	1	2	...	8
July	63·8	19·7	72·5	12	3·50	25	3	6	...	...	...	...	...	1	...	1	...	2	1	...	1	4
August ...	61·75	18·5	79·5	11	2·06	19	4	8	...	...	...	1	...	1	...	2	...	...	4	3	...	7
September ...	59·8	24·5	83	4	·89	23	4	8	...	...	...	3	...	1	1	5	...	7	1	...	1	9
October ...	45·6	14·4	88	16	1·26	28	6	10	...	...	...	2	...	...	1	3	...	2	...	...	2	4
November ...	45·4	13·0	94	19	2·54	24	8	12	...	...	1	1	1	...	2	5	...	...	4	3	3	10
December ..	38·6	10·2	95	15	2·94	23	2	11	...	...	1	3	...	...	...	4	...	...	2	2	2	6
Means and Totals 1895	48·2	17·2	83·8	144	18·42	323	55	149	..	2	3	10	1	5	4	25	...	44	24	12	27	107
Means and Totals 1894	49·1	15·7	83·7	197	24·34	300	39	131	1	6	1	2	2	2	1	15	2	81	73	8	27	191
Means and Totals 1893	49·8	18·5	81·3	150	20·21	345	55	145	1	11	8	13	...	3	3	39	...	84	80	22	41	227
Means and Totals 1892	47·2	16·55	84·3	162	24·32	421	54	188	4	12	4	4	1	8	9	42	...	55	98	17	34	204

SUMMARY of WORK done through the Sanitary Inspector in the Rural Sanitary District of Chelmsford during the year ending 31st December, 1895.

		Total Number for Year.	Result of Inspection, &c,
1.	Complaints received	239	
2.	Nuisances detected	347	
3.	Nuisances abated	325	
4.	Notices served	273	
5.	Summonses taken	1	Against Manure Works.
6.	Convictions	1	Afterwards revoked.
7.	Cottages inspected	840	
8.	Lodging-houses inspected	—	None in district.
9.	Slaughter-houses inspected	23	
10.	Bakehouses inspected	27	Fairly good order.
11.	Dairies and Milk Shops inspected ...	34	,, ,,
12.	Cowsheds inspected	67	
13.	Workshops inspected	—	
14.	Filthy houses cleansed, sec. 46 Public Health Act, 1875 ...	11	
15.	Houses disinfected	77	
16.	Overcrowding abated	17	
17.	Houses placed in habitable repair ...	93	
18.	Houses closed	23	
19.	Houses erected or re-built, for which "Certificates" were applied for...	19	
20.	"Certificates" granted	19	
21.	,, deferred	—	
22.	Wells sunk, or improved supplies of water afforded	3	
23.	Wells cleansed or repaired	9	
24.	Wells closed	—	
25.	Houses connected with sewers ...	19	
26.	Houses connected with water mains	46	
27.	Earth, pail, or improved Privies constructed or existing Privies altered	35	
28.	Privies and W.C.'s repaired : W.C.'s supplied with water	42	
29.	Cisterns cleansed, repaired, or covered	7	
30.	Animals improperly kept removed...	—	
31.	Samples of water taken for Analysis	44	Examined by Medical Officer of Health.
32.	Compensation paid for destruction of infected bedding	19/6	
33.	Seizures of unsound Meat, &c. ...	2	Seized in unlicensed slaughter-house.

(Signed) I. C. SMITH.